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## United States Patent Application

For

## GOLF PUTTER ALIGNMENT ATTACHMENT ASSEMBLY

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## **GOLF PUTTER ALIGNMENT ATTACHMENT ASSEMBLY**

### **BACKGROUND OF THE INVENTION**

[0001] In the game of golf, about half the strokes in a round are on the greens. Good performance on the green is generally considered to be two putts. It can be very frustrating even for good players, if three or more putts are used after good fairway shots. The putt requires accuracy and force of the stroke and also in the direction the ball is struck. In this regard, alignment of the putter head relative to the hole during putting is important. Obtaining proper alignment of a golf club to both the ball and the intended target line is a common problem for many golfers.

### **SUMMARY OF THE INVENTION**

[0002] Accordingly, disclosed herein is a golf putter alignment attachment assembly. This assembly allows a golfer to attach an alignment device to generally any golf putter and to remove it as desired and to subsequently reattach it or attach another alignment device. The assembly includes an alignment device having an alignment indicator. The indicator can be affixed to, affixable to by the user, or formed on a surface of the device, or can simply be the shape of the alignment device. The alignment device is then attachable to the putter so that the golfer can orient the putter relative to a golf ball, assisting the golfer in aiming the ball towards the golf hole during putting.

[0003] The alignment device can be attached (by the golfer) to the putter by a variety of means. A preferred means is a magnet means but also a suction cup, adhesive pad, screw, male and female clasps, and other means as would be apparent to those skilled in the art can be used. The attachment mechanism can include a first connector attachable to the putter (for example, by the golfer or by the manufacturer of the golf putter) and the alignment device has a second connector for mating/cooperating with the first connector. For example, the first connector can be a metal piece and the second connector can be a magnet. Although a preferred attachment method is to attach the alignment device directly to the golf putter club head, it is also within the scope of the invention to attach it to the golf putter shaft. This can be done by using a

clamp on the shaft and with a support arm descending down from the clamp and supporting the alignment device at its lower end in the proximity of the club head.

[0004] Other objects and advantages of the present invention will become more apparent to those persons having ordinary skill in the art to which the present invention pertains from the foregoing description taken in conjunction with the accompanying drawings.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

[0005] FIG. 1 is an exploded perspective view showing a first embodiment of a golf putter alignment attachment assembly of the present invention being attached to a golf putter club head;

[0006] FIG. 2 is perspective view showing the attachment assembly of FIG. 1 in an attached position on the club head;

[0007] FIG. 2A is a perspective view of the attachment assembly of FIG. 2 on the putter and in an alignment position by a golfer relative to a golf ball;

[0008] FIG. 3 is a top plan view of the alignment device of the attachment assembly of FIG. 1 shown in isolation;

[0009] FIG. 4 is an end elevational view thereof;

[0010] FIG. 5 is a side elevational view thereof;

[0011] FIG. 6 is a top view of the connector of the assembly of FIG. 1 shown in isolation;

[0012] FIG. 7 is a side elevational view thereof;

[0013] FIG. 8 is an end elevational view thereof;

[0014] FIG. 9 is a top view of another alignment device of the present invention;

[0015] FIG. 10 is an end elevational view thereof;

[0016] FIG. 11 is a side elevational view thereof;

[0017] FIG. 12 is a top view of a connector of an assembly which includes the alignment device of FIG. 9;

[0018] FIG. 13 is a side elevational view thereof;

[0019] FIG. 14 is an end elevational view thereof;

[0020] FIG. 15 is a top view of another alignment device of the present invention;

- [0021] FIG. 16 is an end elevational view thereof;
- [0022] FIG. 17 is a side elevational view thereof;
- [0023] FIG. 18 is a top view of a connector of the assembly which includes the alignment device of FIG. 15;
- [0024] FIG. 19 is a side elevational view thereof;
- [0025] FIG. 20 is an end elevational view thereof;
- [0026] FIG. 21 is a top view of another alignment device of the present invention;
- [0027] FIG. 22 is an end elevational view thereof;
- [0028] FIG. 23 is a side elevational view thereof;
- [0029] FIG. 24 is a top view of a connector of an attachment assembly which includes the alignment device of FIG. 21;
- [0030] FIG. 25 is a side elevational view thereof;
- [0031] FIG. 26 is an end elevational view thereof;
- [0032] FIG. 27 is a side elevational view of a male attaching member securable to (or part of) an alternative alignment device of the present invention;
- [0033] FIG. 28 is a side elevational view of an alternative male attaching member;
- [0034] FIG. 29 is a top view of a female socket member (connector) for securing therein the male attaching member of FIGS. 27 or 28;
- [0035] FIG. 30 is a side elevational view of the socket of FIG. 29;
- [0036] FIG. 31 is a cross-sectional view of the socket and is particularly adapted for the male attaching member of FIG. 27;
- [0037] FIG. 32 is a cross-sectional view of an alternative socket and is particularly adapted for the male attaching member of FIG. 28;
- [0038] FIG. 33 is a top view of an alternative rotational socket of the present invention;
- [0039] FIG. 34 is a side elevational view of the socket;
- [0040] FIG. 35 is a cross-sectional view thereof;
- [0041] FIG. 36 is a top view of another alignment device of the present invention;
- [0042] FIG. 37 is an end elevational view thereof;
- [0043] FIG. 38 is a side elevational view thereof;
- [0044] FIG. 39 is a top view of another alignment device of the present invention;

- [0045] FIG. 40 is an end elevational view thereof;
- [0046] FIG. 41 is a side elevational view thereof;
- [0047] FIG. 42 is a top view of another alignment device of the present invention;
- [0048] FIG. 43 is an end elevational view thereof;
- [0049] FIG. 44 is a side elevational view thereof;
- [0050] FIG. 45 is a top view of another alignment device of the present invention;
- [0051] FIG. 46 is an end elevational view thereof;
- [0052] FIG. 47 is a side elevational view thereof;
- [0053] FIG. 48 is a top view of a connector of an attachment assembly which includes the alignment device of FIG. 45;
- [0054] FIG. 49 is a side elevational view thereof;
- [0055] FIG. 50 is an end elevational view thereof;
- [0056] FIG. 51 is a top view of another alignment device of the present invention;
- [0057] FIG. 52 is an end elevational view thereof;
- [0058] FIG. 53 is a side elevational view thereof;
- [0059] FIG. 54 is a top view of a connector of an attachment assembly which includes the alignment device of FIG. 51;
- [0060] FIG. 55 is a side elevational view thereof;
- [0061] FIG. 56 is an end elevational view thereof;
- [0062] FIG. 57 is a side elevational view of an alternative alignment attachment assembly of the present invention shown mounted on a putter;
- [0063] FIG. 58 is a top view of the assembly of FIG. 57;
- [0064] FIG. 59 is a side elevational view of a putter club head showing a first attachment location for an assembly of the present invention;
- [0065] FIG. 60 is a view similar to FIG. 59 showing a second attachment point;
- [0066] FIG. 61 shows a third attachment point;
- [0067] FIGS. 62-73 show designs of various alignment device shapes (without or prior to alignment/artful designs being applied thereto);
- [0068] FIGS. 74-79 are top views of any of the alignment devices described above with alternative designs or alignment indicators that have been inked, painted, molded or otherwise applied thereon;

[0069] FIGS. 80-85 show alignment devices similar to those depicted in FIGS. 74-79 wherein the black portions represent solid material that has been removed from the body of the alignment device creating "hollow" designs;

[0070] FIGS. 86-91 are views similar to FIGS. 74-79 and 80-85 wherein the designs can be "applied" or "removed";

[0071] FIG. 92 is a top view of an alternative alignment device;

[0072] FIG. 93 is a side elevational view thereof;

[0073] FIG. 94 is a top view of a further alternative; and

[0074] FIG. 95 is a side elevational view thereof.

#### **DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION**

[0075] Disclosed herein are various alignment assemblies wherein a golf ball to be struck forms an extension of the alignment attachment on the golf club putter to provide an indication that the putter club head is properly aligned with the golf ball and the intended target line. The alignment device is mountable, for example, perpendicular to the ball striking face of the golf club head. The alignment indicator of the alignment device is disposed perpendicular to the ball striking face preferably, and in use forms what can be described as a line or row with the ball to be struck when the putter is properly aligned by the golfer. The alignment device may be designed so that it curves (for example) upward or the alignment device may be designed so that it extends from the head either perpendicularly or at an angle for some distance before meeting a point at which it either curves or extends further at an angle. In the detailed description of the present invention that follows, it should be appreciated that like reference numerals are used to identify like elements illustrated in one or more of the figures.

[0076] FIG. 1 is an exploded perspective view showing an alignment assembly 100 of the present invention being secured to the head 104 of a golf putter shown generally at 110. The assembly 100 includes an alignment device 120 including a generally flat member 124 and a connector 128 secured thereto. The member 124 can be tongue-shaped, and as an example can have length, width and thickness dimensions of 3 ¼ inches, 1 ¾ inches and 1/16 inch. For this embodiment and most of the other embodiments disclosed herein the connector is secured to a bottom surface of the flat

member 132, extending down 3/16 inch, for example. The alignment assembly 100 further includes a separate connector 140 securable to the putter 110 (or more particularly, the club head 104). The other connector 140 is shown herein to include a metal piece 144 attached to an adhesive pad 148 to a surface of the putter head. The metal piece 144 releasably adheres to the magnet 150 in the alignment device connector. The alignment device 120 is shown in its various plan and side views in FIGS. 3-5. Similarly, the (putter) connector 128 is shown in its various views in FIGS. 6-8.

[0077] FIG. 2A is a stylized perspective view showing a golfer G in a putting position holding the shaft 160 of the putter 110 and looking down on the top surface of the alignment device 120. The alignment device 120 defines an alignment line which is perpendicular to the face 164 of the putter head 104 and is centered relative thereto. The golfer G thereby can align the head of the putter face so that it is not only perpendicular to the golf ball 170 but is in alignment with the golf ball and the golf hole 174 (or the intended golf ball path). Of course this alignment path can be a straight path or a curved path, depending upon the golf green characteristics and the golfer's putting strategy.

[0078] The attachment method of the assembly of FIG. 1 is a side attachment method of the connector of the alignment device with the putter connector similarly oriented. In contrast, the attachment method of the assembly of FIGS. 9-14 is a bottom attachment method. It is noted that either one of these assemblies can be altered, as alternative embodiments of this invention, with the putter connector including the magnet and the alignment device connector including the metal piece. This reversal of components can also be applied to the other figures and embodiments herein as would be apparent to those skilled in the art.

[0079] More particularly, the alignment device 218 of the attachment assembly of FIGS. 9-14 includes a flat member 220 with the connector 214 attached to a bottom rearward surface of the flat member and defining a downwardly disposed holder for a permanent magnet 226. The putter connector 214 includes a metal piece 224 and an adhesive pad 228 as shown in FIG. 6, with the metal piece disposed upwardly.

[0080] The assembly of FIGS. 15-20 and the assembly of FIGS. 21-26 show the use of magnets similar to the above-described assemblies. However, the magnets of the last two mentioned assemblies are used in conjunction with male-female constructions that provide for better support than magnetic attachments alone. Specifically, a socket 240 mounting for the outwardly-extending magnet 244 of the alignment device 248 is provided on the putter connector 252. The assembly of FIGS. 15-20 has the magnet and socket laterally attached in a side arrangement. In contrast, the magnet 260 on the alignment device 264 and socket 270 on the connector 274 of the assembly of FIGS. 21-26 are in a longitudinal or top-to-bottom attachment arrangement.

[0081] Also within the scope of the present invention is a male-to-female attachment arrangement that does not use a magnetic attachment but instead relies only on the male-female securement. The male member can be a cylindrical post or preferably it can be a bulbous post 280 as shown in FIG. 27 or a bulbous post with an end tip as shown in FIG. 28 at 284. The bulbous post 280 of FIG. 27 fits into the socket 290 whose cross section is shown in FIG. 31 at 294. The bulbous post with tip 284 of FIG. 28 fits into a socket having a cross-sectional configuration as shown in FIG. 32 at 298. The socket 290 of FIGS. 29-32 are stable sockets. In contrast the socket 304 of FIGS. 33-35 is a rotational socket, as can be understood from the dotted lines in the cross-sectional view of FIG. 35.

[0082] The assembly need not have a connector attachable to the golf club and which is initially a separate piece from the alignment device. Rather, another embodiment of the present invention attaches the alignment device directly to the golf putter or particularly the putter head. An embodiment of this direct attachment is shown in FIGS. 36-38. Referring thereto, the alignment device 310 includes a flat member 320 and a connector piece 330 descending downwardly therefrom and having an adhesive surface 334.

[0083] Instead of adhesive being the means of attaching the flat member 340 of the alignment device 350, a suction cup 354 can be used. An embodiment thereof is shown in FIGS. 39-41. Referring thereto, it is seen that the alignment device 350 includes the flat 340 member and a downwardly-descending connector piece 360 at the end of the



member. Secured to this connector piece 360 and extending rearwardly therefrom is the suction cup 354.

[0084] Instead of an adhesive or suction cup, a screw 370 can be used as shown by the embodiment of FIGS. 42-44. It is seen there that similarly there is the flat member 374 of the alignment device 380 and a downwardly-descending connector piece 384 out from which extends a threaded screw shaft 370. The threaded screw shaft 370 is adapted to thread into a threaded opening (not shown) on the putter (head) itself or on a threaded socket (not shown) secured to the putter. The screw embodiment though may require the golfer to bring his putter to a golf shop or to drill a hole in the putter himself, or the putter may be initially manufactured with the hole.

[0085] The assembly of FIGS. 45-50 includes a T-shaped member 390 extending out from a member 394 descending down from the flat member 396 at the end of the alignment device 400. This T-shaped member 390 fits into a T-shape slot 400 in the connector 410 secured to the putter. This provides a snug fit -- a puzzle piece type of fit. Shapes other than the T-shape can be used as would be apparent to those skilled in the art.

[0086] An alternative type of arrangement for mounting the alignment device to the putter club head is shown in FIGS. 51-56. Referring thereto and particularly to FIGS. 54-56, a rail like groove 420 is provided on the (putter) connector 430. This groove 420 holds the end of the alignment device 434 in place when inserted therein. The attachment mechanism can be best understood from FIG. 56. The alignment device 434 of FIGS. 51-53 can be simply the flat member 438 (such as previously described) without any downwardly or outwardly extending connector pieces.

[0087] A further alternative method of attaching the alignment device to the putter is to use a bracket or clamp type of attachment. An example thereof is shown in FIGS. 57 and 58. Referring thereto it is seen that the bracket or clamp 450 is attached to the shaft 454 of the putter 110 or more generally to an area of the putter outside of the putter head 104. Another possible bracket attachment is to attach the bracket or clamp directly onto the putter head 104. An arm 460 extending down from the clamp supports the alignment device 464.

[0088] FIGS. 59, 60 and 61 show the back sides of putter heads with alignment device mounting points at three different places 470, 480, 490 along the back of the putter head. The placement of each mounting point and the permanency of the alignment device attachment affect the design of the alignment apparatus. The design may require the apparatus to be jointed as shown by the alignment device 500 of FIGS. 92 and 93 having a joint line 510 in the flat member 520. The jointed (pivoted) arrangement may be needed depending on the placement of the mounting point or for the mobility of a semi-permanent or permanent attachment apparatus.

[0089] FIGS. 62-73 show various possible shapes of the alignment device at 520, 524, 528, 532, 536, 540, 544, 548, 552, 556, 560, and 564, respectively. FIG. 63 shows at 524 the tongue shaped as used in the designs described in the paragraphs above, and the other figures show alternative shapes. These shapes all have a longitudinal axis inherent therein which can provide the desired putting alignment.

[0090] FIGS. 74-79 represent a common alignment device body with designs shown at 580, 584, 588, 592, 594, 596, and 598, respectively, that have been inked, painted, molded or applied via some other means directly to the alignment device, and a tongue-shaped alignment device is illustrated. This design provides alignment indicators. FIGS. 80-85 represent solid material that has been removed from the body of the alignment device creating "hollow" designs, as illustrated by reference numerals 600, 604, 608, 612, 616, and 620, respectively. FIGS. 86-91 can represent the "applied" designs as in FIGS. 74-79 or the "removed" designs as in FIGS. 80-85. The "designs" are labeled by numerals 630, 634, 638, 642, 646 and 650. As can be seen, the artistic possibilities are numerous and can be anything from solid shapes to stars to flowers to sports teams and so forth.

[0091] Illustrated in FIGS. 94 and 95 is a further alternative of the invention that goes beyond the flat attachment which is primarily put forth in this disclosure. This further alternative can take the form of a wedge-shape alignment device 700 shown connected by connector 704 to a putter head 708 of a putter 712 having a shaft 716. The putter head 708 is shown positioned proximate to a golf ball 720, for example, that enhances not only putt alignment but also lie or slope control during the swing, which is also an important consideration for putt accuracy. In terms of controlling lie the top of the

alignment device 700 can be a different color (shading or the like) from the sides thereof, providing a visual means for the golfer to identify a less than optimal swing in the process of hitting the golf ball 720. This alternative adds a three-dimensionality component to the present invention.

[0092] Thus, disclosed herein is a putter alignment device attachable to the club head of a putter. By this means, the alignment device can be attached to the putter, but in some instances the alignment device can be directly connected by means of adhesive or other direct connection. The point of attachment, depending on the placement of the alignment connector or the lack thereof, can be on top of, behind, on the side or underneath the putter head. Also it is within the scope of the invention for the attachment of the alignment device to be connected to the putter shaft.

[0093] This putter alignment device assists the golfer in aiming a golf ball towards a hole during putting, as can be best understood from FIG. 2A. The alignment attachment indicators (that is, images on the alignment device) can be circles, hemisphere or complete hemispheres, groups of lines, solid color, transparent, multiple colors, drawings, letters, pictures, images, stickers, three-dimensional objects or any combination thereof. For example, the alignment attachment device can be one or more circles, an image of a missile, bowling balls, the words "drain it," the famous yellow smiley face, arrows, flowers, a picture of the golfer's children, a three-dimensional snake, a logo of the golfer's favorite sports teams and so forth. The standard position of the indicators is along a line extending rearward from the center of impact of the golf putter head.

[0094] The alignment device can be releasably or permanently secured to the golf putter using a separate connector member, as previously described. This connector can be attached to the putter head by adhesive material already on the connector according to a simple design of the connector. After the connector is attached it will not be easily adjustable, unless removed and placed on another location on the putter. Once the connector is placed securely on the putter, the alignment device can be attached to the putter.

[0095] Some of the connectors and alignment attachments pursuant to this invention can be adjustable. First, with multiple points a possible attachment location to the putter

head and after initial attachment, some of the alignment devices can be raised or lowered or manipulated in other ways on the putter to best suit the golfer for different putting situations or personal preference.

[0096] The alignment device can be removable from the putter. That is, the golfer may choose to leave the alignment device attached or may choose to remove it. The alignment device may be interchangeable with other putter alignment devices. The golfer may choose to use them interchangeably due to environmental factors, weather conditions or personal choices or moods or to communicate a message, such as his emotional state. The alignment devices can also be collectibles. Further, the alignment devices can be custom made and also serve other purposes than aligning putts.

[0097] The present invention allows the user to make use of his current putter or virtually any other putter to provide improved putter alignment without necessarily altering the weighting or feel of that putter. Because the golfer does not need to purchase a new putter, the alignment device or assembly of the present invention is simultaneously both economical and beneficial to the golf game. The attachment would likely be less expensive than purchasing a new putter with alignment aids designed into the putter. However, it is also within the scope of the invention to manufacture the alignment devices or their attachments into the golf putter. The simple designs of the present alignment devices make them economical, easy to attach and easy to use.

[0098] The putter connector and putter alignment devices can be manufactured by various methods using many different materials. One preferred embodiment is to make them out of one or more polymer (plastic) materials. Alternatively, metals such as aluminum, silver, gold, platinum or stainless steel can be used. Additionally, the putter alignment devices can be made of natural materials such as wood, including wood products and paper products. Furthermore, the alignment devices can be made from a combination of the above-mentioned materials.

[0099] The (putter) connector as well as the alignment device itself can be manufactured by many different methods. For example, they can be made by making a mold and mass producing copies or utilizing some type of stamping mechanism to form each individual piece. Additionally, they can be manufactured in "sheets" of the chosen material and later separated into individual alignment devices and/or connectors. They

can also be handmade. And the adhesive material can be applied or attached to either the connector or directly to the alignment device for the purpose of attaching to the putter according to some of the embodiments that are discussed above. For example, the putter connector can make use of dual-sided sticky foam sheets. One side will be attached to the putter connector, or directly to the putter alignment device, and the other side will have a protective cover that will need to be removed before placing on the putter.

[00100] Pursuant to a basic form of the present invention, it can be broken down into an alignment apparatus and the putter head to which it attaches. Typically it attaches to the putter in and around the region of the putter head.

[00101] The alignment apparatus or device can be manufactured to be “zero” to many pieces. When it is “zero” pieces the putter is designed by its manufacturer, the golfer and/or other individual to accept the present invention as a semi-permanent metal (or otherwise) insert or attachment. Alternatively, the putter can be retooled by a golf shop to accept the present invention as a semi-permanent insert or attachment. When it is a manufactured as a single piece, the apparatus is attached as a single piece via suction, adhesive, screw or other means to the putter. When it is manufactured as two pieces, a mount unit or a connector is attached to the putter. The present alignment device then connects directly onto this mount or connector via a snap mechanism or some other method as described herein. When it is made of many pieces, one or more combinations of attaching multiple pieces to a mounting unit or to the alignment apparatus are used.

[00102] Pursuant to another embodiment, a manufacturer may build a putter with the alignment device or a connector pre-attached as part of the manufacturing process. From the golfer’s perspective the putter head may look “normal” without the present attachment, although the putter would be capable of accepting the attachment per manufactured specs or standards (while not having a more generic attaching mechanism being used, although that may be possible.) In other words, the putter manufacturers can manufacture their putters straight from the factory pre-fit to accept some form of the alignment device of this invention.

[00103] The placement of the weighting on the apparatus can vary. The present invention also includes the process and system of adding attachments to a putter head which affect the handling and weighting of the putter. This gives the golfer, manufacturer and/or other individual the ability to independently customize the feel of his putter to the best feel and individual performance.

[00104] The length, width and depth as well as the weight of the alignment device can be varied. The composition of the alignment device and mounting unit can be varied as can the weight of the material used. Further, the attaching or mounting points upon the putter can vary. Typically, the device attaches to the putter via the back portion of the putter head, as opposed to the putter head face which typically strikes the ball. However it is within the scope of the invention to position the attachment point at other various positions which include but are not limited to the top of the putter head, the bottom of the putter head and even the shaft of the putter. Further, the attachment can be designed so that it extends over the front/face of the putter and extends up to and past the golf ball that is being hit.

[00105] Many different designs of the alignment device or apparatus of this invention are possible including its size as well as its shape; for example, the apparatus can have a tapered shape. The device can be basically flat or three-dimensional. When viewed from the top, it can take many forms of simple to complex in nature, be of various combinations of colors, sizes, and can depict one or more artful entities. The apparatus can depict hollow designs, for example, two circles physically punched out or removed from the apparatus. Still further designs provide for recesses on the top portion of the alignment device that allow one to interchange the design on top of the apparatus. The change can be permanent or semi permanent. A further design variation is a lollypop design that looks like a stem with a sphere at the end of it.

[00106] From the foregoing detailed description, it will be evident that there are a number of changes, adaptations and modifications of the present invention which come within the province of those skilled in the art. The scope of the invention includes any combination of the elements from the different species or embodiments disclosed herein, as well as subassemblies, assemblies, and methods thereof. However, it is

intended that all such variations not departing from the spirit of the invention be considered as within the scope thereof.